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I, robot?

Editor's note: This essay is part of a series being published to help commemorate the Monthly Labor Review's centennial (July 1915–July 2015). The essays—written by eminent authorities and distinguished experts in a broad range of fields—cover a variety of topics pertinent to the Review and the work of the Bureau of Labor Statistics. Each essay is unique and comprises the words and opinion of the author. We've found these essays to be enlightening and inspirational. We hope you do as well.

A worker retiring at age 66 in 2015 likely joined the workforce sometime between 1968 and 1975. Over that period, cutting-edge technology advanced from gee-whiz hand calculators to wristband devices with as much communications and computing power as the Space Shuttle, while cars have become advanced computer networks that happen to have wheels, an engine, and bucket seats. Assuming technology continues its exponential growth, what technologies will today's hyper social-media-savvy job market entrants need to master to remain productive 25 years from now or when they retire in 2050 or beyond, and how will they manage—and how can the *Monthly Labor Review* help?

The good news is the accelerating advance of technology lowers costs, creates whole new product categories, and generally works to increase labor productivity and income. The disquieting news is that tomorrow's workers will have to be perpetual students to keep up, while lesser skilled workers will find themselves increasingly marginalized and sometimes, ultimately, replaced by technology in some form or fashion. Productive capital requires constant maintenance and upgrades to remain productive. Increasingly, human capital will be no different. But culturally, we're not ready.

Perpetual student workers likely will not mean permanent night-school attendance. Keeping up with technology's advances generally occurs naturally in the workplace—but not always. In any event, staying on top of technology may involve new policy paradigms; will probably require a national conversation led by business, education, and political leaders; and above all will certainly require new personal and cultural attitudes toward career-centered lifelong learning.

Go to school, learn some skills, get a job, advance with experience, retire—this traditional model for American workers is obviously obsolete, but culturally many Americans still retain much of this traditional perspective as life's template. The cultural change necessary to adapt to the new job realities will be as fundamental as was the shift from a mainly agricultural workforce to an industrial one during the 19th century.

Economic data generally, and Bureau of Labor Statistics (BLS) data specifically, will likely prove ineffective causal agents for changing cultural attitudes favoring career-centered lifelong learning, but they can help in important ways to lay the groundwork. The professionals at BLS need to be thinking about how new data sources may be developed to highlight the importance of career-centered lifelong learning and the relevant efficacy of different approaches thereto.

The task ahead is even tougher and more important than it first appears. Consider those segments of society most and least likely to be receptive to the needed change in cultural attitudes toward lifelong learning. The high skilled and the learned are naturally receptive to further learning, while the less skilled and the lightly educated are largely self-selected to be less receptive. Anyone concerned about income inequality, growing or otherwise, should take this issue very seriously.

Go into a fast-food or moderately priced restaurant today, and as likely or not you will be greeted by a computer tablet screen. A server may seat you and bring water and drinks, but your order is placed via

a series of interactive screens. When your meal is finished, your bill is not presented by a server but rather comes up on the same screen on which you ordered and on which you then swipe a card and leave.

Highly skilled individuals designed, built, and tested these new surrogate restaurant server systems. Those individuals also tend to be highly paid, and their efforts are eliminating other jobs at restaurants, at checkout counters, at airports, and so on. There is nothing to lament here. This transition toward capital and technology and higher skilled labor is inevitable and ultimately is income increasing.

While not lamentable, this evolution is a clear threat to those at risk of being left behind—those whose jobs are especially dangerous or relatively low skilled or too highly paid compared with their worker-competitors overseas or their robot-competitors on the shop floor. Such displacement is not a new experience but threatens to increase rapidly. How American workers through policies and cultural evolution adapt to facilitate finding new gainful employment will depend significantly on how successful the workers become at relentlessly climbing the learning curve. Much will be required for these transitions to proceed as smoothly as possible. An essential element of what will be required is information about labor skills and training—perhaps the most important direction the BLS can explore in the years ahead.

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